

ROCKS

Rocks are so common that most of us take them for granted (是理所當然的) — cursing when we hit them with the garden hoe (鋤頭) or taking advantage of them to drive in tent pegs (帳篷釘) on summer camping trips.

To geologists, a rock is a natural substance composed of solid crystals of different minerals (礦物質) that have been fused (融合) together into a solid lump (塊狀). The minerals may or may not have been formed at the same time. What matters is that natural processes glued them all together.

There are three basic types of rock: igneous (火成岩), sedimentary (沉積岩),



and metamorphic(變質岩).

Extremely common in the Earth's crust, igneous rocks are volcanic and form from molten material. They include not only lava (熔岩) spewed (噴湧而出) from volcanoes, but also rocks like granite (花崗岩), which are formed by magma that solidifies far underground.

Typically, granite makes up large parts of all the continents. The seafloor is formed of a dark lava called basalt (玄武岩), the most common volcanic rock. Basalt is also found in volcanic lava flows, such as those in Hawaii, Iceland, and large parts of the U.S. Northwest.

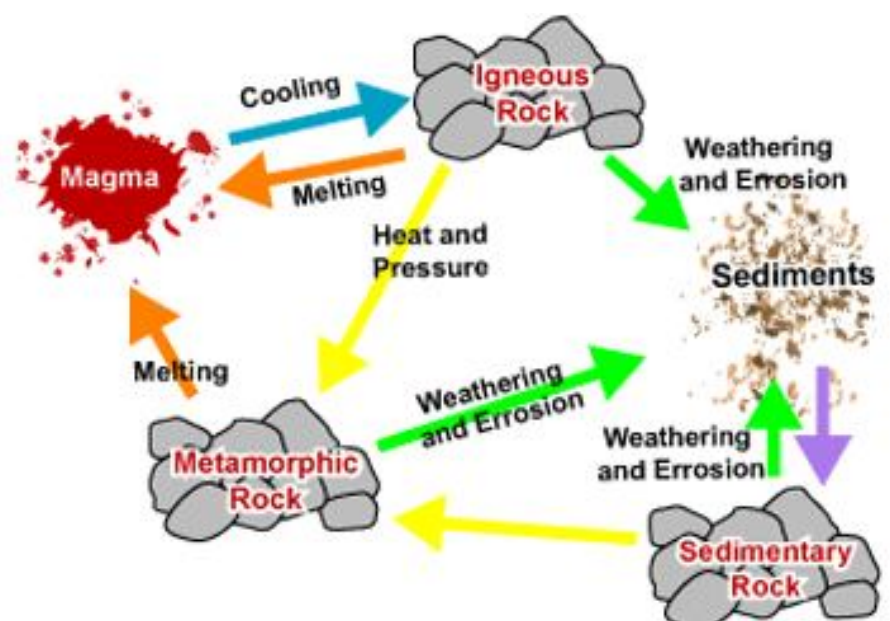
Granite rocks can be very old. Some granite, in Australia, is believed to be more than four billion years old, although when rocks get that old, they've been altered (改變) enough by geological forces that it's hard to classify them.

Sedimentary rocks are formed from eroded fragments of other rocks or even from the remains of plants or animals. The fragments accumulate in low-lying areas—lakes, oceans, and deserts—and then are compressed back into rock by the weight of overlying materials. Sandstone (沙岩) is formed from sand, mudstone (泥岩) from mud, and limestone (石灰岩) from seashells, diatoms (矽藻), or bonelike minerals precipitating out of calcium-rich water.

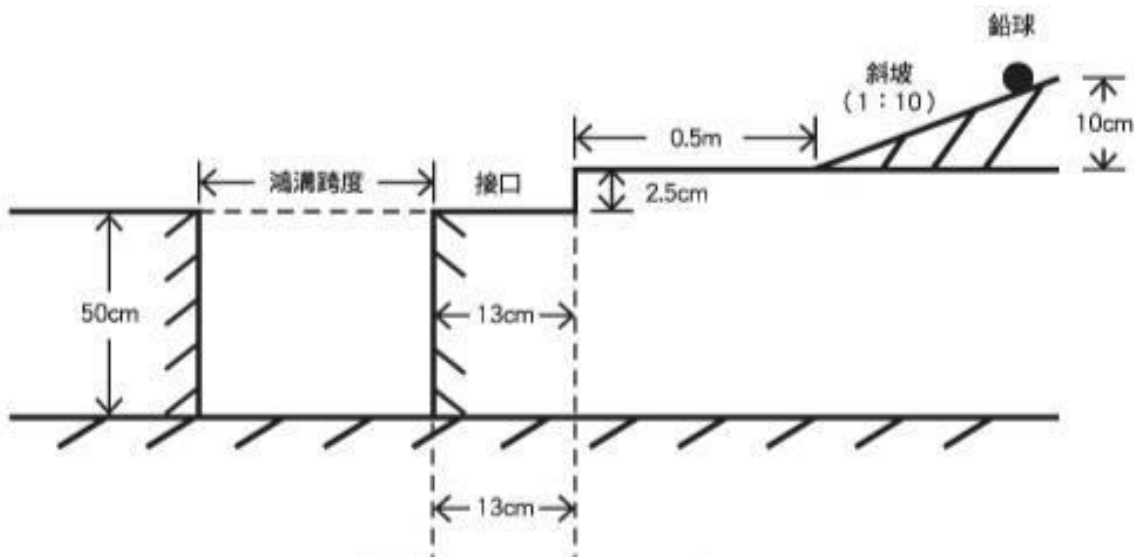
Fossils are most frequently found in sedimentary rock, which comes in layers, called strata (岩層).

Metamorphic rocks are sedimentary or igneous rocks that have been transformed by pressure, heat, or the intrusion (侵入) of fluids. The heat may come from nearby magma or hot water intruding via hot spring. It can also come from subduction (潛沒), when tectonic forces draw rocks deep beneath the Earth's surface.

Marble (大理石) is metamorphosed limestone, quartzite (石英岩) is metamorphosed sandstone, and gneiss (片麻岩), another common metamorphic rock, sometimes begins as granite.



PEARL OVER THE CANYON 2 《深谷再還珠》



1. 器件用料和重量依下列組別規定，惟不能直接採用坊間商品。

2. 器件須置於鴻溝跨度上（見圖一），除接口位置外，器件不能觸碰其他部分（包括地面）。

3. 測試：用鉛球（直徑約 11.8cm，重 3 千克）將置於一斜坡（1：10）離枱面 10cm（垂直距離）的位置上。鉛球從靜止狀態沿斜坡滾下，經過器件，橫渡鴻溝（**跨度為 1m**）。成功讓鉛球滾過的设计，以**較輕者為優勝**。

4. 比賽不分初中組及高中組進行，但對於不同年級的參賽者則有以下要求：

低年級參賽者（中一至中三）：材料不限，但設計器件的總重量**不得超過 400 克**。

高年級參賽者（中四至中五）：材料不限，惟**不能使用金屬**，總重量**不得超過 400 克**。

（註：科學學會或需於賽後剪開器件檢查用料是否合乎規格。）

5. 為鼓勵同學循環再用廢物作器件的材料，環保推廣小組將頒發獎狀和獎品給**最環保**的參賽組別。

6. 每組限 2-4 人，高低年級的同學不能同組參賽。

7. 每組將先用 30 秒簡介設計原理，然後有 1 分鐘時間作賽。

8. 每組最多可獲兩次跨越鴻溝的機會。

9. **科學學會將保留最終決定權**。

**Briefing: 3th December, 2012 (Mon) [15mins] Tryout: 13th December, 2012 (Thu)
Final: 20th December, 2012 (Thu) Time: 4:10 p.m.-5:30p.m. Venue: Class 4D (Rm302)
Deadline of applicaiton: 30th December, 2012 (Fri) **For more details, you may refer to
the posters in your classrooms or our board near rm102****

Science Seminar:

節目名稱	日期	時間	地點
室內空氣質素	15.12.2012 (星期六)	下午 2:30 - 3:30	香港科學館演講廳
香港空氣質素	15.12.2012 (星期六)	下午 3:30 - 4:30	
香港和珠江三角洲區域空氣污染	12.8.2012 (星期六)	下午 2:30 -3:30	
密集城市綠化屋頂的多元環境和能源效益	12.8.2012 (星期六)	下午 3:30 -4:30	

Time to RELAX!

Pearl Over the Canyon 2 《深谷再還珠》 will be held on 20th December! Please feel free to join!

				2		7		
8			3			9		
		6			5			1
4			8	7			2	
	9		1				3	
	5			6				4
7			9			5		
		1			6			8
		5		4				

Previous Answer:

1	2	5	7	9	4	6	8	3
4	9	6	1	3	8	2	7	5
7	8	3	2	6	5	9	4	1
9	6	4	5	8	1	7	3	2
8	3	2	4	7	9	1	5	6
5	1	7	6	2	3	4	9	8
6	5	9	3	4	2	8	1	7
2	4	1	8	5	7	3	6	9
3	7	8	9	1	6	5	2	4

SCIENCE SOCIETY 2012-13

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